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Forests for the Future

Forestry is fast becoming the bird conservation issue of the 1980s in Scotland. Behind the press reports, the arguments over tax relief and suitability of land for tree growth, employment and wader populations, the answers to crucial questions on the ecology of the Scottish uplands are being thrashed out. With the continuing decline in agriculture, forestry appears increasingly attractive as an economic alternative on marginal land. During 1987 the government increased the target for upland planting by 3,000 hectares, and the new pulp mill announced at Irvine is to date the largest single foreign investment ever made in Scotland. At the same time there has been a growing awareness amongst foresters of the inadequacies of forests planted solely with timber production in mind. The challenge for the future is to create forests that combine timber production, wildlife, recreation and landscape values.

The majority of Scotland's forests have been created by planting open ground over the 68 years since the formation of the Forestry Commission. They are predominantly coniferous because of the poor soils traditionally available for forestry, and predominantly of North American species, especially Sitka Spruce, because they are far better suited to Britain's oceanic climate than continental European trees. The new forests are a new and extensive habitat which has already resulted in the dramatic range expansion of several species, especially the conifer specialists, Siskin and European Crossbill. Many birds of prey have benefitted as much from the seclusion and freedom from persecution that the forest provides as from the availability of habitat. This was the key factor in the spread of the Hen Harrier.

Changing ideas

The development of new technology for cultivation and drainage has meant that trees could be grown on less and less fertile soils and that increasingly regular forests could be produced. Forests planted between the late 1950s and late 1970s as a result lack habitat variety. Now positive management is being applied to creating more varied forests, particularly taking the opportunity provided at felling for making major improvements. It isn't just SSSIs and other special sites that have rare and interesting birds, and even changes that are individually small will become important if applied over the whole forest. Our ideas are strongly influenced by research results, mostly from the last 10 years.

Most important is the age of the conifer crop as each stage of growth holds only one group of bird species, and a Crossbill can no more live on a newly planted area than a Short-eared Owl can in a mature stand. It is now clear that forest replanted after clear felling can hold a wide range of open land and scrub species, including larger birds such as Short-eared Owl, Curlew and Black Grouse as well as passerines characteristic of the planting stage: Meadow Pipit, Whinchat and, later, Whitethroat and Redpoll. At the other end of the spectrum forest raptors, including Sparrowhawk, Tawny Owl and, increasingly, Goshawk, use younger stages for feeding but need old stands to nest in. Felling is now planned to extend the range of age classes and so give continuity of timber supply; the greater diversity which results allows the landscape design of the forest to be improved and greatly increases the variety of bird habitat, particularly when some areas of trees are retained into old age.

Hen Common Crossbill and young *David Whitaker/Forestry Commission*

Crossbills have spread in Scotland but we don't really know how many there are. The New Atlas offers an ideal opportunity to answer this question for a whole range of species, many like Crossbills with most of their British population in Scotland.

Valuable broadleaves

Broadleaved trees are essential for Wood Warbler, Pied Flycatcher and Chiffchaff. Research in Wales has shown that even very small groups of broadleaves within a conifer forest enable these species to come in, but most upland forests are planted on land so heavily grazed in the past that no broadleaved seed source survived. Broadleaves are now being introduced into all forests and many existing broadleaved woods have been fenced against deer to allow natural regeneration.

The better soils along burns and rivers are often the best place for broadleaves. In contrast to conifers they do not shade out aquatic life, but can actually contribute a high proportion of fish food from falling leaves and insects. Conifers must now be kept well back from even the smallest perennial streams. Around larger burns forest design aims to create a mixture of open ground and broadleaved woodland as a permanent corridor through the forest. Although this will be ideal for Pied Flycatcher, Redstart, Dipper and ducks keeping open grassland grazed for waders is a problem; at Strathrory Forest a substantial area has been fenced for cattle grazing.

Open Spaces
Open ground within the forest is important to a number of birds, in particular Black Grouse. Research in Scotland and Wales has identified its complex requirements for a mixture of forest and open ground of different vegetation, especially heather and cotton grass. Raptors favour open edges for hunting, and *Sylvia* warblers occur where broadleaved scrub develops.

Artificial nests
Although habitat management is the key to bird conservation within the forest it will be a long time before the needs of all species are met through natural development of tree holes or large nesting trees. Special projects can give rarer birds a helping hand, like Goldeneye which were unlikely ever to nest without boxes; 800 extra boxes were put up in 1985 to support Roy Dennis and Hilary Dow's original scheme. Nearly 30 Osprey eyries have also been built, partly to help young birds get started, but also to discourage the species unfortunate habit of nesting in public places! Floating rafts for Black-throated Divers aimed at avoiding the problems of water level fluctuations and accidental disturbance have not succeeded so far, perhaps not surprisingly for such a site faithful bird.

Fieldwork in the forest
Already a process has started which will in time transform existing Scottish forests, but the research information basis for these changes is still small. For example, we still have virtually no idea what birds occur in the vast, northern Lodgepole Pine forests. Lack of information is also a central problem in the development of new forests on open ground. This was certainly the case in Caithness and Sutherland; one would have to be very naive to believe that anyone trying to carry on a business would intentionally seek controversy on the scale of the Flow Country dispute. We have little idea what effect forestry has had on upland bird populations in Scotland in the past, and it is possible that important sites disappeared before they were discovered. Learning from the lessons of the Flow Country, it should be possible to do better for upland birds in the future. Government policy is that forestry will continue to expand but foresters are not going to seek confrontation and the value of the uplands for birds is highly variable. Co-ordinating existing knowledge on where the best and the poorest areas are, filling in gaps and accepting further forestry on the least valuable land for birds will result in an increased willingness from foresters, who often have only a vague idea of what is or isn't of high conservation importance, to accept that the better areas should not be planted.

The new BTO/SOC Atlas of Breeding Birds provides an immediate opportunity to fill the gaps. Forests were particularly poorly covered by the original atlas, and the Forestry Commission are discussing with James Reid, the Scottish Organiser, how we can ensure better coverage this time. Because of the scale of land use change now in progress forests are likely to have some of the largest bird population changes. Who knows whats lurking in the Lodgepole?

Roderick Leslie

Rod Leslie is the Forestry Commission's Wildlife & Conservation Officer. His article will be followed up by a series by local experts on birdwatching opportunities in Scottish forests.

The New Atlas in Scotland

One measure of the success of the original Breeding Atlas is that it led to many national and regional ornithological societies embarking on atlas projects of their own. Bird atlases have now been published for many countries in Europe, Africa and Australasia, as well as for some North American states and English counties. Not only has bird distribution in the breeding season been mapped but some year round atlases also exist and it was only comparatively recently, of course, that the Atlas of Wintering Birds in Britain and Ireland was published. Here in Scotland the fieldwork for a year round atlas of birds in north-east Scotland has been completed and the Clyde branch of the SOC have made significant progress over the last three years in mapping the distribution of birds breeding in their area. The Lothians and Borders branches of the SOC are also getting together to produce a breeding bird atlas and, hopefully, others will follow.

The success of earlier atlas projects has lead us to expect to complete field work for the New Atlas in three years, two years less than in the older Atlas. This should reduce the chances of the data being biased by unusual conditions occurring in any one year. Detailed information on habitat will be extracted from as many sources as possible and related to New Atlas data. This will entail systematic statistical comparisons – not just subjective assessments made by placing transparent overlays on distribution maps. This means that the data will actually be used by conservation organisations in helping to provide advice to landowners, policy-makers and other interested parties. This marks real progress in nature conservation.

From a Scottish viewpoint perhaps the most noteworthy difference between the old Atlas and the forthcoming one is that the Scottish Ornithologists' Club is assuming responsibility for the organisation of the New Atlas in Scotland. To this end the SOC, for the first time in its history, now employs a professional ornithologist. This has been made possible by generous grants from the Gilman Trust and the Nature Conservancy Council and we are optimistic of receiving further support from other sources.

It is only through the efforts of amateur ornithologists that we can ensure a successful Scottish contribution to the New Atlas. Fieldwork in this country, with its breeding populations of rare and spectacular species will, of course, prove most rewarding for Atlas workers. Apart from the problems normally encountered in an investigation of this sort, however, there are others which are unique to Scotland. Most important of these is that the area to be covered is very large while the number of potential fieldworkers is small. This is especially true of remote areas in the north and west of the country. It is vital, therefore, that every SOC member participates in New Atlas fieldwork. Only a modest investment of time is required of volunteers and it should prove both worthwhile and enjoyable. If you are willing to do fieldwork please contact either your local Atlas representative or the New Atlas Scottish Organiser, **Dr Jim Reid, SOC, 21 Regent Terrace, Edinburgh EH7 5BT.** It is a marvellous opportunity to make an effective contribution to ornithological knowledge in Scotland.

Photo Spot

Dipper with prey *Keith Kirk*

The Third Prizewinner in the SOC photo competition shows this uniquely aquatic passerine on its way to feed its young. Dipper numbers vary with prey abundance which can be affected by stream acidification so Atlas results for this species will be of particular interest.

Recent Reports

These notes include unchecked reports and are not intended as a permanent record. Please send reports to ***Pete Ellis, Seaview, Sandwick, Shetland,*** *via local recorders at the end of March, June, September and December. The period October to December is covered here.*

The long spell of easterly winds in October resulted in the best year ever for rare birds in the Northern Isles. On Fair Isle alone there were 75 BBRC birds. Spectacular falls of Scandinavian thrushes also occurred, particularly on 14 and 21 October. Strong north-westerlies in late November brought a massive influx of **Little Auks.** The first half of the winter was cold in northern Scotland, but extremely mild in Shetland and resulted in more **Robins, Blackcaps** and **Chiffchaffs** staying on than usual, and an **Olive-backed Pipit** on 3 January. Not a bad start to the New Year for some!

The Whalsay **White-billed Diver** put in a few appearances and another was seen off the Fetlar Ferry. Ten **Blue Fulmars** were at Fraserburgh on 18 October and small numbers of **Sooty Shearwaters** seen off several sites. A **Bittern** found in a very weak condition in Shetland on 19 October was later released at Leighton Moss. The **Green Heron** corpse found at Tyninghame on 25 October was the first record for Scotland. A **Little Egret** was found on Benbecula in November. **Bewick's Swans** were in Shetland, Loch Flemmington and the Hirsel. Geese included a **Bean** at Findhorn, **Snows** at Strathbeg and Islay, small **Canadas** also on Islay and Findhorn. **Green-winged Teal** were in Lewis and South Uist and an **American Wigeon** in Caithness; a **Blue-winged Teal** was shot in Lewis. A **Red-crested Pochard** was in South Uist, a **Ferruginous Duck** at Kilmarnock, **King Eiders** off Whalsay and at Loch Fleet, a female **Harlequin Duck** on Islay (a superb find by the Edinburgh YOC Group), an **American Black Scoter** at Gosford and **Surf Scoters** at Culbin and Rattray Head with 2 more at St Andrews.

A **Rough-legged Buzzard** was in Shetland, a **Saker** on the Eden and a **Hobby** at Fife Ness. **Spotted Crakes** were seen on Out Skerries, Fair Isle and Sanday. A **Crane** was near Ayr. Waders included **Avocet** near Aberdeen, **American Golden Plover** and **Great Snipe** on Fair Isle. **Pomarine Skuas** were scarce. The only **Long-tailed Skua** was a dead juvenile in Shetland. **Little Gulls** were in Shetland, off Peterhead and off Girdleness. A **Mediterranean Gull** was at Hunterston but **Iceland** and **Glaucous Gulls** were scarce though including the Banff **Kumlien's Gull. Guillemot** numbers in the North remained high, but with few dying so far. Counts in the inner Moray Firth and Loch Eriboll have also been in the thousands and, unusually, **Razorbills** have been involved, including 1650 in the Beauly Firth. The biggest concentrations of **Little Auks** were in the Moray Firth. Smaller numbers were off NE Scotland, and yet more in the Forth with 1000 off Tyninghame on 15 December.

Orkney had its first **Kingfisher** for 12 years and **Hoopoes** were seen in Shetland, Aberdeenshire and Fife. A **Short-toed Lark** was in Shetland and 6 **Shore Larks** at Tyninghame. Late hirundines included an influx of **Red-rumped Swallows** in late October and early November, with 2 in Lerwick, 1 on Fair Isle, 1 at Broughty Ferry and 3 in Edinburgh. **Richard's Pipits** turned up from Shetland to St. Abbs. Fair Isle had a **Tawny Pipit** and a remarkable total of 12 **Olive-backed Pipits**, including 5 on one day, whilst North Ronaldsay had the first 2 records for Orkney and another was in Shetland. Fair Isle had an **Eastern Yellow Wagtail** and Orkney a **Citrine Wagtail** on 4 October but **Waxwings** were rare. A **Black-bellied Dipper** was at Anstruther.

Eight **Bluethroats** were in the North Isles with another on South Uist. A total of 68 **Black Redstarts** were seen. **Siberian Stonechats** were on Whalsay, Fair Isle and at Noss Head. 125 **Ring Ouzels** were among the 2500 **Redwings** and 950 **Fieldfares** on Fair Isle on 14 October, and an even larger fall in the North Isles on 21 October involved tens of thousands of **Fieldfares.** A **Subalpine Warbler** was at Tyninghame. **Blackcap** counts included 250 on Fair Isle on 14 October. It was a good year for **Pallas's Warblers** with 4 in Shetland, 4 on Fair Isle, and another at Fife Ness. There were 25 **Yellow-browed Warblers** in Shetland and 36 other records, including 1 in South Uist. Fair Isle recorded its first **Radde's Warbler** with another in Shetland; **Dusky Warblers** were also seen in both places. **Firecrests** occurred in Lewis and at St. Abbs, and 10 **Red-breasted Flycatchers** were seen.

Pallas's Warbler *Bernie Zonfrillo*

A **Treecreeper** on Fair Isle was followed by another of the **northern race** which wintered in Orkney. Shetland had its first **Isabelline Shrike,** although **Red-backed Shrikes** were very scarce and **Great Grey Shrikes** not particularly numerous.

At least one of Fair Isle's two **Arctic Redpolls** may have been of the rarer **Greenland race,** ***Hornemanni.*** Two **Scarlet Rosefinches** were on Whalsay, and another in Orkney, whilst one caught at Scoughall had been ringed on the Isle of May the previous day. The Fair Isle **Savannah Sparrow** remained to 1 October. **Lapland Buntings** included 55 at Aberlady in November and 27 at Eyemouth in December. A remarkable run of **Pine Buntings** between 11 October and 3 November involved 3 on Fair Isle and 2 on North Ronaldsay, whilst Out Skerries could only manage a **Yellowhammer!** Fetlar had an **Ortolan** and Out Skerries, Whalsay and Fair Isle produced single **Rustic Buntings.** There were 5 **Little Buntings** in Shetland, 8 on Fair Isle, 3 on North Ronaldsay and 2 at Girdleness. The only **Yellow-breasted Bunting** was at Fife Ness which makes a nice change from them all being in the Northern Isles.

Pete Ellis

Viking

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Scottish Gamebirds: points of view

Dr Hudson's article (September issue) is misleading in several respects and incorrect in others. He states that "Although numbers of gamebirds may fluctuate greatly from one year to the next all species have shown a decline in numbers in Scotland, particularly since the last war.". Field studies on Ptarmigan numbers show no evidence of decline; and the sparse evidence from shooting bags of Black Grouse and Capercaillie is unreliable, partly because the interest in shooting these two species has altered considerably over the period covered by the records. He claims that "reduced availability of preferred food items and increased losses to predators seem to have been important in all species" but there is no evidence for this in Scottish gamebirds. He says "This was shown clearly in a long term study of Grey Partridge by Dick Potts and summarised in his recent monograph", but there are serious weaknesses in that story (see *Ibis* 129, p. 424 and *Journal of Applied Ecology* 24, pp. 719-720). The "reduced availability of preferred food items" in the Grey Partridge study concerned insect foods for chicks. What of other species, particularly the Red Grouse, Black Grouse and Ptarmigan which Dr Hudson mentions specificially? His use of "decline in numbers" is ambiguous, but to judge from his first paragraph he means a long-term reduction in average bird densities. There is no documented evidence that any such reductions in British grouse species have been due to a shortage of insects.

The claim that "In certain instances hill drainage could .. have a detrimental effect on grouse and other moorland species such as Golden Plover and Dunlin" should be balanced with the observation that there is very little evidence on this point from Scottish grouse moorland. What evidence there is suggests that in some circumstances drainage benefits Golden Plover; for example, it can help to create good grassy feeding areas. Furthermore, Dunlin on Scottish grouse moorland breed on flat or very gently sloping ground with pools or peat hags. Hill drainage in such places would be impractical, and we know of no such places subject to hill drainage in recent years. The author then states that "In the mountains, tourists, climbers and skiers leave debris which attracts Crows to the high tops to take the eggs of montane species like Ptarmigan and Dotterel". Such egg-robbing has been found to be important for Ptarmigan only at Cairn Gorm, which is exceptional as it is the most heavily visited Scottish mountain. "In the mountains" implies a general effect, and the evidence is against this.

Dr Hudson says a "domino effect of a series of traditional grouse moors" disappearing due to afforestation and consequent increased predation on neighbouring areas "can be seen in the uplands". Although this is a possibility, there is no firm evidence to back up his apparently factual statement. He writes that the "vast areas of commercial forestry in Perthshire would never have occurred if grouse shooting as a sport had remained viable". Certainly, some moors where grouse have become scarce due to tick-borne disease have been turned into forests. But large parts of many Scottish moors with high grouse stocks were also afforested. The main point is that "commercial" (sic) forestry is more economic than grouse shooting because it is subsidised with public money and pays no rates. The Scottish grouse industry is not thus subsidised and indeed has to carry national taxes and a heavy rates burden.

Blackcock *Bobby Smith*

The sweeping assertion that "There will always be Golden Plover, Merlin and Hen Harriers where there are grouse but these all go when there are large scale changes in land use" is incorrect in numerous cases. For instance, many large areas with Red Grouse have no Golden Plover because the heather is too tall. Many other large areas with Red Grouse have no Merlins or Hen Harriers because the ground vegetation is too short. Turning moorland into woodland is a large scale change in land use, but it is now known that Hen Harriers can breed in open areas that have been restocked (*Bird Study* 33, 177). Dr Hudson's assertion about Hen Harriers sits uneasily with the September issue's front-page publicity on illegal killing of protected birds of prey. Although the better gamekeepers respect wildlife and do not kill protected species, Hen Harriers and Golden Eagles have been, and still are, persecuted on many grouse moors, and their breeding numbers there reduced to very low levels or extinction, as the Scottish Raptor Study Groups and the RSPB can testify in detail.

One cannot expect detailed evidence to be given for every statement in a short article, but when a scientist argues a case which is not based on solid evidence he should say so, and be particularly careful to make sure that his statements are accurate. The editorial comment (p. 4) that the article is "based on good, scientific fieldwork" is understandable because of the effective publicity put out by the Game Conservancy in support of their views, which are likely to have been taken at face value by readers unfamiliar with the field. However, the author's claims, which we rebut above, are not firmly based on published or other evidence from any scientific fieldwork that we are aware of.

Adam Watson & Robert Moss,
Institute of Terrestrial Ecology, Banchory

Reply

My article in *Scottish Bird News* was a general review of the state of Scottish gamebirds and a summary of research findings, some of this research has been conducted in England. There are always exceptions to generalisations and most of the comments by Drs. Watson and Moss have indicated some of these exceptions. There are no factual errors in my original article and all can be substantiated. As such I am happy to correct the misinterpretation Watson and Moss put on my article and provide the evidence that they appear unaware of:

1. Ptarmigan decline:

Numbers of Ptarmigan have declined in Scotland according to a number of authorities (reviewed by Thom, 1986 *Birds in Scotland).* Most of this has been associated with a loss of habitat at the edge of the species range.

2. Partridge numbers:

The study by Dick Potts and colleagues has proved irrefutable experimental evidence that Grey Partridge chicks need insects to survive well and that predation reduces breeding production substantially. These experiments have never been brought into question.

3. Loss of preferred food items:

I did not propose that a decline in grouse numbers was caused by shortage of insects even though insects are known to be important in the survival of grouse chicks. I did say that "reduced availability of preferred food items" was important and it is known from scientific work that over grazing by sheep and deer or poor management activities can reduce young heather, cotton grass (preferred by Red Grouse) and blaeberry (preferred by Black Grouse).

4. Waders, drainage and grouse management:

Research by the Nature Conservancy Council has found that waders fed at insect rich bog flushes and "draining flushes may deprive chicks of a critical food resource". Furthermore they conclude "widespread gripping adversely affects both grouse and waders" (Reed, 1985, *Game Conservancy Annual Review).* The same article also says that good grouse management produces an "ideal environment for upland waders".

5. Impact of afforestation on upland birds:

The NCC report "*Birds, bogs and forestry*" lists 11 bird species known to have declined due to afforestation and point out that for "moorland raptors ..... the crucial issue is the extent of open hunting ground remaining beyond the plantations since the new forests have little or no value as feeding habitat".

6. Persecution and habitat management:

Of course it is clear from RSPB evidence that protected species are persecuted and neither The Game Conservancy or I condone these actions. My point in the article was simply that not all keepers conduct such illegal practices but through habitat management actively conserve and create important habitats used both by gamebirds and other wildlife.

Scottish ornithologists, including myself, owe a great deal to the fine work and detailed observations conducted by Adam Watson over the past 40 years. I was therefore very sad when Dr Watson felt it necessary to criticise my article, particularly as many of the criticisms are rather pedantic and could have been clarified with a private letter. While discussion and criticism amongst ornithologists is important if conservation is to progress, I feel that such discussions should be constructive since our objective is the same: to maintain Scotland's important avifauna.

Peter Hudson

Population Cycles in Red Grouse

It has long been recognised that numbers of Red Grouse show cycles, fluctuating more regularly than would be expected by chance. One of the earliest explanations of this was 'grouse disease'. James Dalziel Dougall *(Shooting: Its Appliances; Practice; and Purpose)* wrote in 1875 that "So regular are these alternations ..... that I have correctly predicted in print the very years when we might next look for serious disease." He concluded that "the whole mischief arose, primarily, from over-stocking". We now know that 'grouse disease' is a parasitic infection by the caecal threadworm *Trichostrongylus tenuis*. Dougall's idea that "overcrowding creates disease", translated into modern scientific jargon, is of a parasite/host cycle with parasite burdens following behind host densities and causing periodic declines.

Dougall also felt that the mischief of overstocking was due to "gamekeepers most improperly killing off the falcons" which he termed "sanitary commissioners" because they "kill off the weaker birds". In support of this idea he contended that 'grouse disease' was a new phenomenon which had not been observed before keepers began trapping "vermin". He also recorded the view current at the time that "any blight of the heather is followed by disease" and discussed the possibility that the onset of disease might be associated with food shortage. Finally, he noted the phenomenon then known as grouse migration, when grouse "leave their usual haunts". This, he thought, might be a consequence of food shortage and disease.

Modern research has produced few completely new ideas to add to Dougall's discussion of factors which limit grouse populations. One new, if obvious, point is that heather provides the birds' cover as well as its main food. This means that some long heather is required for shelter if a moor is to support a reasonable number of grouse. Thus overgrazing or overburning which results in too short a sward, or even disappearance of the heather, can reduce grouse numbers. Both overgrazing and overburning are thought to have contributed to the decline in numbers in western Scotland relative to the east. Another point is that the nutritive quality of the heather, as well as its height and quantity, affects grouse numbers.

Perhaps the most important new conceptual development has been the result of careful observations of the birds' territorial behaviour and patterns of movement. As with all animals, the Red Grouse's potential rate of increase exceeds the numbers needed to replace average rates of mortality. In all animals the average rate of increase is held below its potential by some means. In the case of Red Grouse, this means is usually social behaviour. For example, Red Grouse which fail to get territories are excluded from society and consequently die – often after wide-ranging movements reminiscent of Dougall's 'grouse migration'.

What are modern views on the main factors which limit grouse numbers on a moor? Most workers would agree that changes in Red Grouse numbers – as indicated by records of shooting bags – have had three main components. First, a long-term slow decline in average bags, going back in some areas to the turn of the century, and due in part to overgrazing and overburning. Second, random 'noise' due to a variety of factors such as changes in weather affecting the birds' food plants. And third, not always present, a regular or 'cyclic' component. This cyclic component can be separated from long-term trends and short-term noise by statistical means. When this is done, two main patterns emerge in different populations. First, and most clearly, a 6-7 year cycle in, for example, north-east Scotland where we have done most of our work. Second, and less clearly, a pattern in which high numbers tend to be followed by low numbers about two years later. This latter pattern has been studied by the Game Conservancy in parts of northern England and called by them a 'quasi-cycle'. They attributed it to 'grouse disease'. We shall not discuss this further.

Our work indicates that the cycle in north-east Scotland is due to changes in the birds' social behaviour. It seems that, when the birds reach high densities, they react by changing the way they behave. This results in declining densities and increased rates of movement, or 'grouse migration' which can occur at all seasons. Eventually, a large proportion of the 'migrating' birds dies from a variety of immediate causes, predation, starvation, disease and stress – but the ultimate cause of their death is the change in social behaviour which causes them to move. This is a subtle hypothesis, difficult to test directly. As well as studying behaviour and movement, we have therefore concentrated partly on testing and working out the importance of other proximate factors: food, predation and disease. We think that, although each of these factors contributes to the 'noise' shown in the diagram, none of them causes the cyclic fluctuations that we have seen. Here, we disagree with Dougall.

An important point is that the immediate cause of death of Red Grouse in many populations may be irrelevant to what determines the numbers that eventually breed. The number of birds that die is generally the number excluded from the breeding population by social behaviour. However, in some populations such as on the carrion-strewn bogs of western Ireland, predators, particularly foxes and crows, may be more abundant than grouse and here it is quite possible that they have a limiting effect. There is no evidence that the scarcer predators, such as protected birds of prey, have any serious impact on grouse breeding stocks.

A common feature of population fluctuations in Red Grouse and Ptarmigan which is unusual in grouse species as a whole, is a close correlation between breeding performance and changes in spring numbers. Following good breeding, spring numbers generally go up; following poor breeding, they usually go down. If this always happened, we might be justified in doubting the importance of social behaviour in limiting spring numbers. Furthermore, we might be tempted to suggest that whatever affects breeding performance – predation, starvation or disease for example – also determines changes in spring numbers. However, we have shown by experiment that increases in spring numbers can follow poor breeding, and declines can follow good breeding. Cycles, of course, are a general feature seen in many populations of northern animals such as voles, lemmings and hares. It would be useful if such a general phenomenon had a general explanation. We speculate that it has, that cycling in density helps animals to escape the effects of predators and disease. A consequence of prey being scarce is that predators decline in numbers. Similarly, disease organisms decrease in abundance. Cycles in numbers may be a consequence of adaptive behaviour. Hide and seek can take place in time as well as in space. If so, in an ultimate sense, disease or predation may be a cause of population cycles. But the cycles may be a way of escaping from these natural enemies and not due to animals being killed by them here and now.

Robert Moss and Adam Watson

Hen Harrier at the nest *Arthur Gilpin*

Persecution of these fine birds is illegal and irrelevant to grouse stocks

There's more to Islay than geese

Islay and geese are inseparable to a birdwatcher. The wintering flocks of 22,000 Barnacle Geese and 7000 Greenland Whitefronts (1987-88 figures) are by far the largest flocks in the country and the birds are accessible and easy to observe. There are frequently other species to be found scattered through the flocks, including Snow, Pinkfoot, Greylag and Brent, small races of Canada Goose, and even, as in March 1986, a Lesser Whitefront.

There is a third word which, alas, is now also linked with Islay and that is 'conflict'. As Barnacle Geese increased through the 1960s and 1970s, so did the amount of damage to improved grassland. The creation of an RSPB reserve and agreements with NCC to pay compensation to farmers within SSSIs have helped a lot, but there are still problems outwith the SSSIs.

Greenland Whitefronts hit the headlines two years ago when a proposal to dig peat for whisky-making from Duich Moss, one of their two largest roosts on the island, was blown up into an enormous, and largely unnecessary, confrontation. The voice of reason finally prevailed and an alternative source of peat has now been found. Only some offending ditches remain on the moss, and NCC are trying out ways of minimising their effect on the moss pools and their rare plant communities. Numbers of roosting geese are currently higher than ever, in line with an overall increase in the wintering population.

There is, of course, a great deal more birdlife on Islay than just the geese. About 110 species breed each year, and it is possible to see over 100 different species in every month of the year. Last October there were c. 120 species present for a few days, including Britain's 11th Harlequin Duck.

These avian riches stem from the island's diversity of geology and habitat. There are sea cliffs and sandy beaches, dunes, mountains and moorland, lochs of all sizes and fertility, oak and birch scrub, mature broad-leaved woodland, modern forestry plantations and marshes both fresh and salt. Hardly surprisingly, Islay is also a paradise of wild flowers in summer.

Geese are widely distributed over most of the lowland parts of the island throughout the winter, though with concentrations of Barnacle Geese around tidal Loch Gruinart, where the RSPB Reserve is situated, and along the central valley debouching into the head of Loch Indaal. These two sealochs between them hold most of the wintering and passage waders.

Loch Indaal is also notable for wintering divers, grebes and seaducks. A count in February 1987, when there was very cold weather on the British mainland, but typically light night frosts and glorious calm sunny days on Islay, produced 54 Red-throated Divers, 11 Great Northerns, 49 Slavonian Grebes, 650 Scaup, 8 Long-tailed Ducks, 165 Common Scoters, 300 Eiders and a Smew. The Scaup total was actually a low one, the flock is often over 1000, making it, with the one at Carsethorn on the Solway, the largest in Britain.

The Chough is one of Islay's specialities. There are c. 80 breeding pairs on the island, and a total post-breeding population of over 300, making up the vast majority of the Scottish, and over 50% of the British, populations. Contrary to statements in several bird guides, which only mention a breeding colony on The Oa in the south, Choughs are widely distributed and probably commonest in the west and north-west. They are solitary breeders, though often roosting communally, and have taken to nesting in ruined farm buildings as well as in more traditional sea caves. They are most easily seen when feeding on dunes and pastures.

Golden Eagle, Peregrine, Buzzard, Hen Harrier, Sparrowhawk, Kestrel and Merlin all breed on Islay, and, as was proved recently by the Borders branch of SOC, it is quite possible to see all these species in a short visit as well as wandering White-tailed Eagles from Rhum.

The Corncrake still breeds on Islay, rasping its monotonous call from small hay fields and rushy corners. In summer 1986 there were 23 calling birds on the island, about the same as in 1979. They are commonest in the west and south-west where traditional crofting is still carried on. The recent declaration of a new, and very large, SSSI covering this area may help, through management agreements, to maintain both these practices and the Corncrake which is so dependent on them.

Scaup on Islay *Rodney Dawson*

Islay Choughs *Derek Robertson*

It is hard to plump for a 'best time' to visit Islay. Obviously wintering geese are a major attraction, and if one can time a visit with their arrival, then this certainly ranks among my own top goose experiences. I have not seen a mass arrival, and am not even sure they occur. Instead, I have sat beside Loch Gruinart for a whole day watching small parties of Barnacle Geese appear out of the northern sky, flock after flock after flock; as one passes by, the next one is in sight and probably the one after that. They reach the head of the loch, land on the sandflats, bathe and preen and then sleep, recovering from their non-stop flight of some 1400 km from Iceland. Unless wind-assisted, this represents anything up to 20 hours flying. Over 10,000 Barnacles have come in a single day along with Whooper Swans, Greenland Whitefronts, Brents and Pintail. Such an arrival is not, of course, predictable, but 18th October is optimal, though it was as early as the 9th in 1987.

April is another marvellous time; days are lengthening; the geese are still all here, not departing until the middle of the third week; the first migrants are arriving; and Curlews, Oystercatchers, Redshanks, Snipe and Ringed Plovers are displaying and singing all across the island. In fact, it doesn't matter when one visits Islay there is always something to see, and, if it rains, there are always distilleries to look round and their products to sample; the more birdwatchers who support local industry the better for conservation!

Malcolm Ogilvie

Dr Malcolm Ogilvie moved to Islay from the Wildfowl Trust at Slimbridge in May 1986. Apart from writing and lecturing, one of his main occupations is running the Islay Field Centre, which offers accommodation to visiting naturalists and acts as a biological records centre for the island. Malcolm has also just taken on the job of Assistant Editor of Scottish Birds.

DISCOVER ISLAY'S WILDLIFE

Why not combine a holiday in this most hospitable of islands with some worthwhile birdwatching (those famous wintering geese; also over 100 breeding species), plant-hunting (800 different wild flowers) or other studies? The Islay Field Centre offers low-cost selfcatering accommodation for up to 15 persons, a reference library, and files of existing records. The Director, Dr Malcolm Ogilvie, can advise on current surveys and good locations, give help with identification, or act as a full-time guide for a group.

Details (13p stamp please) from: **Islay Field Centre, Port Charlotte, Islay, Argyll PA48 7TX.**

Ibis chick *Chris Morris*

Hoofnote

The complete NCC herd of seven Highland Ponies from Beinn Eighe, Wester Ross are to go to France on permanent lease - in order to help French birds.

In a unique example of the Auld Alliance NCC has agreed to send its New Calgary Highland Pony Stud to help to control vegetation, which affects the bird life of the Marais D'yves Nature Reserve.

The pony herd was bequested to the NCC by the late Mrs Warren but is no longer required for management purposes at Beinn Eighe.

The Highlanders will leave conditions at Beinn Eighe which can be windswept and cold for a milder environment where frost is uncommon. Instead of heather and mountain there will be ponds, lagoons and sand dunes. The ponies will be maintained as a purebred group with any foals being registered in Highland Pony Society records and with NCC at any time permitted to inspect them.

The seven mares will "manage" the French Reserve, where pastures require to be kept grazed to avoid becoming overgrown. In this way the area is kept attractive for breeding birds. Small ponies which are strong and gentle are the ideal; the Beinn Eighe herd have these characteristics, unlike the more fiery Camargue horses. The charge for this French connection is a rent from the French League for Bird Protection to NCC of one pound a year, if demanded.

NCC Press Office

Breeding Bald Ibis at Edinburgh Zoo

One of the principle aims of a modern zoo is to participate in the conservation of endangered species. At Edinburgh we welcomed the opportunity to become involved with international efforts to build a secure captive breeding population of the Bald Ibis, or Waldrapp. As many readers will know this species is severely threatened in the wild with remnant populations just hanging on in Morocco and Turkey.

The initial colony came from the Jersey Wildlife Preservation Trust in 1983. They first showed breeding behaviour in 1986, when a number of eggs were laid. Only one chick was hatched and this subsequently disappeared. One problem was the lack of privacy for each pair on their nest sites. This was overcome by modification to the next boxes at the end of the breeding season.

In March 1987 six birds began to investigate prospective nest sites. These were the same birds which nested in 1986, although interestingly the pairs had changed. Eventually the same cock birds settled on their previous sites and nest building, courtship and copulation were observed. Nesting material consisted of straw, twigs, grass and the odd feather which was formed into a neat deeply concave nest. It takes a pair approximately six days to complete a nest and new material is constantly added to heighten the edges during incubation. Before laying commenced it had been decided to pull the first egg from each clutch for artificial incubation. Dummy eggs would be substituted to minimise any disturbance. If the pairs sat for the full period we would attempt to re-introduce those eggs when they were pipping so that the chicks could be parent reared. We were prepared also to pull full clutches of eggs from any pairs who lost an egg as cannibalism had been suspected in the colony. In the event only one pair laid a full clutch and incubated the eggs to hatching. A second pair laid only one egg and the third pair lost an egg shortly after it was laid, forcing us to pull the remaining eggs.

Our usual regime of artificial incubation was followed. After an incubation period of 27-29 days all the remaining eggs hatched successfully. The chicks weighed between 38-50 grms and were covered in grey down, although the heads were bare of feathers, just showing grey skin with a touch of blue. Attempts to reintroduce pipping eggs to two pairs were unsuccessful.

Food was 46% commercial cat food with smaller quantitites of beef heart, mice, fish, eggs and water plus vitamin and mineral supplements.

As with all long legged birds, overfeeding can lead to too high a weight gain and crippling leg malformation. To counter this the chicks were weighed daily, before the first feed and that day's food intake was decided by plotting their weight against an ideal growth curve.

To minimise the risk of imprinting, chicks were kept in pairs in plastic containers, firstly on paper, then cloth and finally on nests of twigs on a sand floor. Competition for food between siblings eventually reached a stage where they had to be separated. Re-united as a group when they began to show mobility off the nest, they settled down well with no obvious sign of bullying.

We are now confident in our ability to hand rear Ibis young. Hopefully as the breeding pairs become more experienced, the necessity for this will diminish and our colony will continue to flourish.

Thanks to my colleagues Martin Gibbons, Mike Kilkenny and Robert Macleod.

Fiona Macleod

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Colonial nesting Red-breasted Mergansers

It appears that the Red-breasted Merganser has not been recorded nesting colonially in Britain, although this has been recorded on continental Europe and in North America. In 1983 and 1984 a small colony was discovered on an island measuring c. 150 × 150 metres at the Haugh of Kercock on the River Tay, some 25 kms upstream of Perth. The island is the smallest and furthest downstream of three. Island status is generally lost as summer progresses and the river level drops, except in wet years. The island substrate is of shingle, sand and mud. Primary vegetation consists of a horseshoe shaped belt of willow scrub. There are small areas of grasses and brambles, with numerous clumps of Tansy.

The Merganser nests were found on the ground beneath the willow scrub or, in two cases, in clumps of Tansy. In 1983, between 9 and 15 July, two nests contained 7 eggs, one nest 8 and two other nests 9 (including one clutch with a dwarf egg). In 1984, between 18 May and 21 June, there were seven nests; one with 4 eggs (deserted) two with 8 eggs, two with 9 and two with 12 (including one nest 'starring' on 21 June). No search for nests was carried out between 1985 and 1987, although birds were present in these years. The outcome of individual nests has not been recorded, although broods of young Mergansers have been seen on the Tay in the vicinity annually.

The island provides nesting sites for a number of other species including Canada Goose, Mallard, Tufted Duck, Moorhen, Black-headed Gull, Common Gull and Common Tern. A measure of protection by the other species may be afforded against predation. Young and Titman *(Can. J. Zool.* 64: 2339-2343) suggest that Merganser nests are protected in tern colonies and this accounts for the evolution of nesting associations. BWP (vol. 1, p677) describes the Red-breasted Merganser as 'Colonial in areas of high density'. At Kercock the number of adults observed in late spring suggests that most, if not all, nest on the island although apparently similar vegetation is to be found at a number of sites along the East bank of the Tay.

Michael W.A. Martin

Reaction of wagtails to Stoat

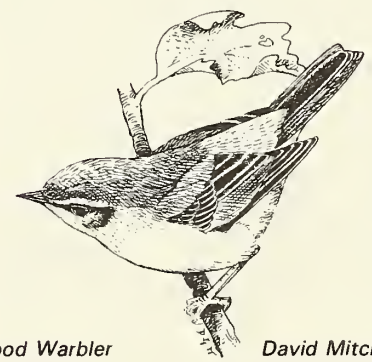
On the afternoon of 3rd September 1987, I came upon a group of ten Pied and one Grey Wagtail resting on the ground at a farmyard near Giffordtown, Fife. Apart from taking an occasional insect, they were inactive. During my five minute observation, a Stoat ran backwards and forwards across the area and through the group of wagtails, disappearing behind vegetation on one side and a dung heap on the other. During its passage the wagtails fluttered up temporarily, but showed no anxiety. Likewise the Stoat did not attempt to molest the birds and soon disappeared for good. The animal was not carrying prey (although it may have done previous to my arrival), and I found it surprising that such a predator induced no alarm amongst the birds; a case, perhaps, of its well-known hypnotic behaviour?

Normal Elkins

British-marked Purple Sandpipers in Iceland

There are at least two populations of Purple Sandpipers which winter in Britain, characterised by differing bill length distributions and therefore classed as "short-billed" and "long-billed". The former have been found to come from Norway but the origins of the "long-billed" population is unknown. It was suspected that they came from either Greenland or Canada for there have been two ringing recoveries linking Britain with southern Greenland. Neither bird, however, was recorded as being a breeding bird so may have been on migration to or from Canada. In order to reach these breeding areas Purple Sandpipers presumably migrate via Iceland but up to now there has been no evidence of this for British wintering birds. In April 1987 the Tay and Orkney Ringing Groups joined forces to ring and dye-mark Purple Sandpipers on Sanday, one of the North Isles in Orkney. A hundred birds were dyed between 26-30 April. On 25 May 1987 one of these dyed birds was seen at Gardskagi, S.W. Iceland (64.05N, 22.41W). Another Purple Sandpiper, colour-ringed at Peterhead, Grampian by the Grampian and Tay Ringing Groups on 18 March 1984 was sighted at Selvogur, S.W. Iceland (53.50N, 20.42W) on 20 May 1987. These are the first records of British-marked birds in Iceland. Iceland has a large breeding population of Purple Sandpipers but there is evidence from measurements and colour-mark sightings that this population is resident and does not migrate to Britain. We therefore suspect that the two marked birds were on migration to either Greenland or Canada.

Ron Summers, Colin Corse, Mike Nicoll and Robert Rae



Wood Warbler *David Mitchell*

Peregrine parasitising Sparrowhawk

On 28 June 1987 when off the west coast, an adult male Peregrine was seen sitting on a dead tree above a crag overlooking a large sea loch. It suddenly took off and flew fast over our boats' bows and out across the loch. When about 200 metres from shore it dropped in a vertical stoop from about 12m straight onto a Sparrowhawk which was flying low over the water carrying prey. The Sparrowhawk dropped the prey and fled with great haste into woods. The Peregrine swooped down, trying to retrieve the prey. At the third attempt it grasped a small bird from the surface of the loch and flew up to a dead tree where it quickly ate its meal.

Iain C. MacLeod

Unusual Golden Eagle call

Most sources describe the Golden Eagle as being a usually silent bird, typical calls being a 'yelp' and a mew like that of a Buzzard. At 12.15 B.S.T. on 27 April 1987 I was approaching a nest crag in the Western Highlands to check for signs of occupancy when an eagle called. Phonetically the call resembled that of a large nestling, 'wee-yow', but deeper and more raucous in tone with a resonant quality. It was more drawn out than the nestling call, lasting approximately three seconds, was repeated three times and was heard at a distance of c. 1.7 km. Because of the possibility of hatching the nest was not visited but on May 25 one egg was being incubated and there was no evidence of a chick having hatched. Neither of the pair showed immature plumage characteristics.

I can find no published records of an adult making this call but I have heard it on several occasions since 1980 at a nesting valley in Cumbria, England. Two adult females have made the call in England but only after the hatch when it has been associated with a lack of food at the nest. A shortage of food may have elicited the call but it is not known if the Highland pair provisioned the nest during incubation. There was no food, or remains, on the nest on May 25 when it was visited.

D.G. Walker

Orienteering and woodland birds

Orienteering is a fast growing sport which can see 1,000 plus competitors running through woodland in big events. On 6-7 June 1987 the Scottish Championships were held at Drumore Wood which includes an important oak enclave in the predominantly coniferous Loch Ard Forest. Helped by SOC members I carried out a Common Bird Census in the wood before and after the event to try to measure the effect of human disturbance. The organizers gave out advice notes to competitors who, in general, seemed to stick to established tracks; even so a dead Roe Deer fawn was found on 11 June, probably abandoned by its mother during the event. Redstart, Wood Warbler and Tree Pipit numbers all declined around the time of the Championships but the exact cause is not clear as the Championships took place on one of the wettest days of the summer and this may have affected song birds. In 1988 I hope to study Drumore Wood in an undisturbed year as a comparison with 1987 and another area in the Trossachs where the Championships are to be held this May.

Bill Brackenridge

Facts and figures from NCC

Readers who may have felt the Caithness Flows have become an obsession with the media are right. Speaking in Inverness NCC Chairman – and SOC member – Willie Wilkinson said that, since publishing Birds, Bogs and Forestry on 23 July, 2,000 column inches had been printed on the subject "not all of it the sort of things we want to hear"! He also said that NCC currently spend £38 million per annum of which c. £7 million will be spent on manpower and programme costs in Scotland this year; taking central support services into account he thinks 25% of NCC's total resources go on Scotland.

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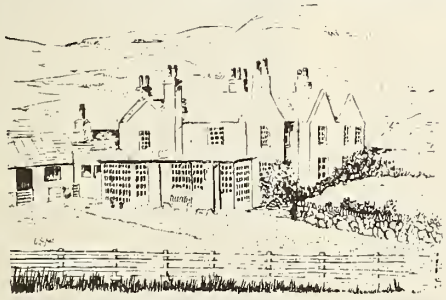

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Volume III of **The Birds of Africa** completes the treatment of the non-passerine families and marks the halfway stage in the accomplishment of the late Leslie Brown's dream of a new African handbook. It follows the format of Volume II in which contributions by invited experts deal with each species under a comprehensive set of headings. Birds breeding in Africa are covered in full with sections on range and status, description, field characters, voice, general habits, food and breeding. Non-breeding visitors are treated more briefly, with emphasis on their status and behaviour whilst in Africa. The colour plates, by Martin Woodcock, show all the species in almost all plumages, male, female, immature and non-breeding. Beautifully executed, they combine "field guide" attention to detail and diagnostic features with the realism of natural poses. Ian Willis' delightful line drawings illustrate behavioural and identification points in the text. Geographical ranges are shown on maps which distinguish breeding and non-breeding distributions and in many instances also show regional variations in abundance. References and a discography complete the volume.
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Scottish Ringers' Conference, 1987

The venue for the 13th Conference was the Fife Arms in Braemar. The hosts, the Grampian Ringing Group had worked hard to put together a weekend of talks, displays, quizzes, B.T.O. shop, S.O.C. Bookshop and facilities for discussions, commonly referred to as bars!

Adam Watson set the scene by giving a historical account of ornithology in the Cairngorms and the characters involved; Seaton Gordon and Desmond Nethersole-Thompson to name but two. He documented changes over the past 50 years and the various methods used to study his beloved Grouse and Ptarmigan. His use of pointer and setter dogs was fascinating. He reminded us all that much remains to be done and a new generation must take on the responsibilities. Hector Galbraith followed with a fascinating talk on the preliminary findings of a national Dotterel survey. A possible Scottish population of around 700 pairs tallies well with another estimate by Adam Watson *et al.*

Before lunch Robert Rae of the Grampian group gave us an insight into sexing and ageing Snow Buntings and how to 'clap-net' them during the winter. A superb lunch was followed by a gentle stroll in the direction of Linn o'Dee. The bright winter sunshine on fresh snow was refreshing, the air bracing and stags and Golden Eagles completed the Highland atmosphere.

Innes Simm set the ball rolling again by explaining the 'Scandinavian Connection' of birds ringed in the Grampian Region. Another G.R.G. member, Raymond Duncan, took the floor to entertain us with a study of breeding Skylarks using Aberdeen golf courses. Final talk of the day fell to Chris Thomas who described an expedition to Oman to study wintering waders. The Sultan provided the accommodation and the transport: Range-Rover and free fuel. They identified one important area which was immediately declared a sanctuary and is defended by armed guards 24 hours a day!

Discussion into the sma' hours still saw a full dining room at breakfast. Brian Stewart described how Oystercatchers are taking to the flat roofs of schools, industrial complexes and even dormer extensions. The derelict areas in oil-related work yards contain more Oystercatchers as well as Lapwings and Ringed Plovers. A couple of short talks followed on raptor netting in North America and tape luring Redwings near roosts. Sarah Wanless then showed us how radio-telemetry has helped monitor the movements of breeding auks on the Isle of May. Sarah highlighted the great potential of this technique which is now more widely used than ever before. Razorbills go much further afield to get food for their young than Puffins or Guillemots. Diving times can also be monitored as the radios cannot transmit under water. The final talk was on the Black Grouse of Deeside by Nick Picozzi. Many branch members will remember this talk – the slides, content and delivery all excellent.

The Scottish Ringers' Conference is going from strength to strength with 180 attending including 14 from Northumberland who now qualify as honorary Scots.

Bruce Lynch

Reviews

Wildfowl: an identification guide to the ducks, geese and swans of the world *by Steve Madge and Hilary Burn; Christopher Helm; 1987; 298 pages; 47 colour plates; £19.95.*

This volume, in the same format as 'Seabirds' and 'Shorebirds', brings together the superb painting of Hilary Burn and the field experience of Steve Madge. The need for an identification guide to the world's wildfowl is less than for other groups; geographical separation prevents confusion between many similar species and this may be why the blurb recommends the book for use in collections of captive wildfowl, where the labelling is often not all it might be.

The plates are beautifully executed, if a trifle dark in a few cases. At last a flying drake Mandarin is shown with its orange 'sails' lying flat! However, I fail to understand why, in over half the plates, the order of birds on the plate differs from that of the captions opposite. The species on the plates are numbered, not named, making the confusion worse. Species texts are comprehensive, covering habitats, habitat distribution and population as well as identification. Some of the goose population estimates are badly out-of-date and the migration path of the Svalbard population of the Barnacle Goose is wrongly described.

This is the first book to come my way that illustrates the dubiously valid blue phase of Ross's Goose. A birder visiting Islay this autumn claimed one among the Barnacles and used this book to back up his claim. Although there are some line drawings of diving duck hybrids, there is nothing on goose hybrids, nor the fact that a Barnacle X Whitefront hybrid can look a little bit like a blue phase Ross's Goose! Nevertheless this is an excellent identification handbook worth owning for the plates alone

Malcolm Ogilvie

Rhum – The Natural History of an Island *edited by T.H. Clutton Brock & M.E. Ball; Edinburgh University Press; 1987; 155pp; 33 black & white plates; £19.95.*

This is not a big book; it works out at c. 12.8p per page and they are small pages with wide margins! After an introduction by the editor, the book is in eight sections: geology by C.H. Emeleus, human history by John Love, a chapter I particularly enjoyed, having worked on the archaeological excavation mentioned in this chapter back in 1985 (there is evidence of human occupation going back eight thousand years), a chapter on botany, woodland and forestry by M.E. Ball, followed by Peter Wormell on the invertebrates and then John Love again with Peter Wormell on the birds of Rhum, paying particular attention to the colonies of Manx Shearwater and also the reintroduction of White-tailed Eagles. The last two chapters deal with red deer, by Tim Clutton Brock and Fiona Guiness and the ponies, cattle and goats. Each chapter is well written, but the price must surely reduce sales of this book which, at half the price, might still be on the dear side.

Iain C. MacLeod

Birds, bogs and forestry *by D.A. Stroud, T.M. Reed, M.W. Pienkowski and R.A. Lindsay; NCC; 1987; 121 pp; many illustrations maps and diagrams; £10.00*

Everyone concerned with the debate over forestry in Caithness and Sutherland should read this. It is really a book rather than the usual style of NCC report, with a clear layout and colour photography. As such it seems well designed to be read by the non specialist and one is left wondering why NCC made such a hash of its presentation by launching it in London without at least a parallel event in Thurso. Besides documenting the current ornithological value of the peatlands the NCC team raise several very important points. The area in question has bog as a natural climax unlike other moorland areas further south where tree cover was removed by man. They consider these bogs "the largest example of a primaeval ecosystem ... in Britain" as well as being globally important. They also acknowledge that the SSSI method of identifying important "islands" of high conservation value is inappropriate for this sort of area and for many bird species, such as eagles, which range so widely. Two areas where I feel the authors could have said more are the effects of human activity on the peatlands, especially the effects of burning on willow and birch scrub, and the validity of expressing bird populations as percentages of EEC populations - surely the EEC is a political rather than an ecological unit?

Stan da Prato

Black and white

On the evening of 5 August 1986 a striking, almost black tern landed in a group of Sandwich Terns at the mouth of the River Esk at Musselburgh. In flight it was comparable in size and structure to a Sandwich Tern but was largely dark sooty-grey except for an obvious white trailing edge to the primaries and secondaries, and a paler grey tail. The head, nape and chin were the darkest sooty grey, with a demarcation with a paler, but still sooty-grey breast and mantle. The flanks and undertail were off white. The intricate patterning on the wings was comparable to that of adjacent Sandwich Terns. Ignoring the colour, the bird appeared to be a juvenile Sandwich Tern. It was not oiled and the plumage looked in good condition, and I can only assume that it was partially melanistic.

In marked contrast, last autumn saw the arrival of an albinistic Oystercatcher at Musselburgh. During its stay from 16-27 August many observers saw the bird either feeding on the mussel beds or roosting with the other 1600 Oystercatchers on the ash lagoon. The bird's bill and legs retained the normal pigment but the plumage was completely off-white with some browner markings on the wing coverts.

During passage times the total numbers of waders, gulls and terns may remain fairly constant but these sightings, like those of colour-marked birds, show that there is a considerable turn-over of individuals each remaining only a short period.

Ian Andrews

APRIL PUBLICATION

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R. F. Porter, S. Christensen
and Ian Willis

This long-awaited companion bird-guide includes all known breeding, wintering, migratory and accidental species in the region, from Morocco to Iran and Arabia. Over 700 species are covered, of which Ian Willis illustrates more than 350 species in colour, showing sex, age and seasonal differences where appropriate; in addition there are many black and white identification drawings in the text. The latter treats identification with especial thoroughness in the species accounts but there are also sections for voice, habitat and status.
A special feature is the 510 two-colour breeding distribution maps which provide more up to date information than is to be found in any comparable source. The authors have long associations with the region and this distillation of their knowledge and expertise has provided a much needed guide of unequalled excellence.

22 × 14 cm, 280 pages plus 40 colour plates, distribution maps, many line illustrations, £14.00 net

T & A D POYSER

SOC Notices

New President

In the absence of more suitable candidates Council have appointed Dr Stanley da Prato as the new President of the Club upon the resignation of Dr Jeremy Greenwood who escaped to become Director of the BTO on 1st January. Stan da Prato is already well known to Club members as the editor of *SBN* and assistant editor of *Scottish Birds* among other sins. A secondary school teacher, Stan and his wife Susan, who is more sensible and, therefore, not a teacher, live in East Lothian where they have carried out studies of warblers and other boring small birds for many years. He was awarded a Ph.D. for this work by the University of Edinburgh in 1986; conclusive proof of the decline in educational standards under the Thatcher government.

A general meeting of the Club is to be held in Edinburgh on Tuesday 12th April to elect the new president and approve a subscription increase for next year (1989). Details are enclosed with this issue of *SBN*.

Dorothy Ridley

After over eleven years working for the Club in the Bird Bookshop, Dorothy Ridley retired earlier this year. Dorothy will be known to many Club members and Bookshop customers as the kindly and helpful voice at the end of the telephone. Dorothy has seen many changes in the SOC over the years, including four Bookshop managers! She will be missed both by Club members and staff. We wish her and her husband Jack all the very best in their retirement.

Changes in Local Recorders

Dennis Coutts (Shetland) and Euan Cameron (Perth & Kinross) have recently retired as local recorders. We thank them for their hard work over the years and welcome their replacements.

Shetland, (except Fair Isle): Nick Dymond, Easthouse, South Whiteness, Shetland ZE2 9LL

Tayside (Perth & Kinross): Wendy Mattingley, Cluny House, Aberfeldy, Perthshire PH15 2JT.

Annual Raffle 1988

At the time of writing (January) the annual raffle looks like being a resounding success due to the efforts of Alastair Peirse-Duncombe, the Borders Branch and all those members who bought and sold raffle tickets. The draw will have taken place at the Borders Branch Meeting on Monday, 8th February. The results, being too late to include here, will be in the next issue of *SBN*.

Wing-tagged Golden Eagles

Please report any sightings of wing-tagged Golden Eagles to **Stuart Rae, 24 Hartington Road, Aberdeen AB1 6YA.**

Flannan Islands Study Group

The Flannan's an S.S.S.I. lying some sixteen miles west of the nearest point of Lewis, are one of the least known groups of islands in Scotland. During the last 30 years, four expeditions have visited the islands in 1959, 1969, 1975 and 1987. Other very short visits have also been made.

The birds, invertebrates, plants and archaeology have been to a small degree investigated but much more requires to be done. Human exploitation of the islands' resources should also be recorded and liaison with bodies such as the Uig Historical Group and the School of Scottish Studies over the collection of oral tradition and place names will be important.

We hope to form a study group representing as many interests as possible to plan further research. One of the major problems is the cost of getting to (and around) islands but it is hoped to mount annual expeditions. If you are interested in becoming involved in this group either actively, or from your armchair, then please contact me giving details of your interest(s), comments on the formation and/or funding of the group etc. Details of the organisation of the study group will be worked out once responses have been obtained and discussed with as wide a range of people as possible.

Andrew Ramsay, 'Hardanger', Coulnagour, By Culbokie, Ross-shire (0349 87) 686.

Owl pellets in Perth and Kinross

If you find any owl pellets, or know of owl roosting sites where pellets can be collected, you can help with our survey. Simply collect the pellets, pop them into a bag and send them to the museum along with a note of the place found, the date, the owl species (if known) and your name and address. The pellets you send in will be dissected and the contents identified by the museum staff. You will receive a report on the results. From the survey we hope to learn more about the distribution of small mammal species in the district and the food preferences of local owls. If you have any queries about the project please contact **Michael Taylor or Stephen Hewitt at Perth Museum and Art Gallery, George Street, Perth PH1 5LB. Tel: (0738) 32488.**

Colour Ringed Dotterels

In 1987 over 300 breeding Dotterels and their chicks were ringed in Scotland. This represents a large proportion of the breeding population and doubles the previous number ever ringed in Britain. The majority of these were also individually colour-marked using up to 4 colour-rings, including above the knee. This offers a unique opportunity to study the migration of the Scottish population through the British Isles and further. Would anyone seeing Dotterels this spring and in future migration seasons please note the site, date and number of birds; how many birds were checked for rings; the colours of any rings seen, which leg they were on and whether they were above or below the knee. All sightings will be acknowledged by **Rik Smith, 36 Dubford Crescent, Bridge of Don, Aberdeen AB2 8FT.**

Small ads

ABERFELDY, Perthshire. Comfortable well-equipped holiday cottage near Glen Lyon, Ben Lawers and Loch Tay. Phone (08873) 331 for details.

ANDALUSIAN SIERRAS: rambling, naturalist, pony-trekking summer holidays. Fascinating birdlife, wonderful scenery, 2 weeks from £285 including full board in picturesque white villages, activities, excursions, Lindsay Chapman, 6 Kiplin Place, Eaton Ford, Cambs PE19 3RG. Tel 0480 212540

HIGHLAND COTTAGES. Self-catering cottages in Perthshire and the Isle of Skye. Tel: 073871-374 anytime.

HIGHLAND WILDLIFE. Full programme of courses in Argyll, Barra, Skye and Perthshire from Highland Field Studies, Smithy Cottage, Snaigow, Dunkeld, Perthshire PH8 0RD (sae appreciated). Tel: 073871-374.

BIRD JOURNAL back numbers supplied – D. Morgan, Whitmore, Umberleigh, Devon.

UPPER GLENISLA - ANGUS. Very comfortable, well equiped, warm cottage in beautiful setting. Sleeps 3. Available April-October. SAE Mrs Duff, 31 Regent Terrace, Edinburgh EH7 5BS.

DISCOVER BIRDS AND THEIR SONGS in the splendour of the Highlands. Based at our comfortable Guest House offering warm hospitality and good food. Daily excursions to important habitats of Marsh, Forest and Mountain with experienced guide and transport. Spring and Summer tours available. Open all year. Details from Merlin Wildlife, Sonnhalde, East Terrace, Kingussie, Inverness-shire PH21 1JS. Tel: 054 02 266.

FAIR ISLE BIRD OBSERVATORY REPORT 1987, £2.50 from FIBOT, 21 Regent Terrace, Edinburgh EH7 5BT.

SBN Advertising Rates

Full page £100. Half page £60. Quarter page across £30. Sixth page £20. Third page upright £40. Small ads £2 per line. Prices are exclusive of VAT. Adverts should be sent to Business Editor, SOC, 21 Regent Terrace, Edinburgh EH7 5BT.

Deadlines

SBN is published four times a year, at the beginning of March, June, September and December. Material submitted for possible publication should be sent to 21 Regent Terrace no later than 8 weeks prior to publication (e.g. by 1 April for the June number), although late news and notices may be accepted slightly later. Queries - and suggestions - will be welcomed by the Editor. Information on the submission of material for *Scottish Birds*, will be found in *SB 14(1)*.

SOC Membership

Membership subscription rates are as follows:

Adult	£10.00
Junior (under 18 or student under 25)	£4.00
Family (husband, wife & children under 18)	£14.50
Life, individual £200.00, family	£300.00
Pensioner, individual £6.00, family	£8.50

Further details from Membership Secretary, SOC, 21 Regent Terrace, Edinburgh EH7 5BT.

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